

METHOD AND DEVICE FOR TRANSFERRING THERMOFORMED ARTICLES

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 and 15-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Heni et al. (US 4,233,868), hereafter Heni.

Regarding **Claim 1 and 15**, Heni teaches a method and device for transferring thermoformed articles (see Fig. 1 at 23), which are separated with respect to a sheet of thermoformable material (see Abstract). The thermoformed articles are transferred from a station (see Fig. 1 at 20) to separate the articles (see Fig. 4, Fig. 5) to subsequent processing station (see Fig. 1 at 21). The articles exiting the separation station are drawn by suction and made to travel inside a corresponding duct as result of a condition of vacuum pressure produced in proximity to the inlet of said duct and inside said duct (see column 7 line 43-65; see also Fig. 1 at 62, 63, 64, 65).

Regarding **Claim 2 and 16**, Heni teaches producing vacuum pressure by injecting pressurized air into an intermediate portion of the duct (see column 7 line 43-65; see also Fig. 1 at 62, 63, 64, 65).

Regarding **Claim 3 and 17**, Heni teaches the injection of pressurized air inside the duct in the form of individual jets delivered from a series of nozzles equidistant from said inlet (see column 7 line 43-65; see also Fig. 1 at 62, 63, 64, 65).

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Regarding **Claim 4 and 18**, Heni teaches the nozzles are equidistant from one another along the internal surface of the duct (see Fig. 1 at 62, 63, 64, 65; see also column 7 line 43-65).

Regarding **Claim 5 and 19**, Heni teaches the nozzles are fed by means of through holes with an axis inclined with respect to the axis of the duct (see Fig. 1 at 62, 63, 64, 65; see also column 7 line 43-65).

Regarding **Claim 6 and 20**, Heni teaches the injection of pressurized air is implemented inside the duct in the form of a blade of air delivered through a continuous peripheral aperture (see Fig. 1 at 62, 63, 64, 65; see also column 7 line 43-65).

Regarding **Claims 7-8 and 21-23**, Heni teaches the continuous peripheral aperture of variable width having an inclined section with respect to the axis of the duct positioned between at least two reciprocally aligned portions of the duct (see Fig. 1 at 62, 63, 64, 65; see also column 7 line 43-65).

Regarding **Claim 9 and 24**, Heni teaches the containers are made to travel to the output of the duct and directed along one or more guide members for each of the articles (see Fig. 1 at 62, 63, 64, 65; see also column 7 line 43-65; see also column 8 line 55-66).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 10-12 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heni as applied to claims 1-9 and 15-24 above, and further in view of Floyd et al. (US 3,869,042), hereafter Floyd.

Regarding **Claim 10 and 25**, Heni teaches moving articles through tubes by a stream of air to stack the articles. Heni is silent regarding placing the articles on a shaped element, which is complimentary to the shape of the formed article. Floyd teaches depositing an article on a shaped element which corresponds to the shape of the article (see Abstract; see also Fig. 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the article transferring device of Floyd in the method taught by Heni because one of ordinary skill in the art would have been able to carry out such a substitution to achieve the predictable result of moving and stacking articles. “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ2d 1385 (2007).

Regarding **Claim 11 and 26**, Floyd teaches moving the shaped element between one position to receive the article and one position to release the article (see Abstract; see also Fig. 7).

Regarding **Claim 12 and 27**, Floyd teaches holding the article on the shaped element by vacuum pressure between shaped element and the article (see Abstract; see also Fig. 7).

5. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heni as applied to claims 1-9 and 15-24 above, and further in view of Padovani (US 5,650,110).

Regarding **Claim 13**, Heni does not clearly disclose the separation station incorporated into a thermoforming mould. Padovani teaches a thermoforming machine wherein a separation

station is incorporated into a thermoforming mold (see column 1 line 27-33; see also Fig. 1-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the thermoforming mould into the separation station taught by Heni because incorporating two process operations into a single station will reduce the floor space required by the process equipment.

Regarding **Claim 14**, Heni teaches the cutting unit is incorporated into the separation station (see Fig. 1, 4, and 5).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Nichols whose telephone number is (571) 270-3969. The examiner can normally be reached on Monday thru Thursday 7:30 AM to 5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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